

MEAN TEMPERATURE DETECTING TUBE

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Application Number: 51-118141 (JP 76118141) , September 30, 1976

International Class (IPC Edition 2):

- G01K-001/16
- G01K-003/06

JAPIO Class:

- 46.1 (INSTRUMENTATION--- Measurement)

Abstract:

PURPOSE: To detect the mean temperature without abnormality, even on occasion of having a sharp temperature inclination, by restricting the heat transmission quantity, covering the outside of hollow vessel of mean temperature detecting tube with insulating material. (From: *Patent Abstracts of Japan*, Section: E, Section No. 40, Vol. 02, No. 79, Pg. 3245, June 23, 1978)

JAPIO

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NAIL REINFORCING AGENT

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International Class (IPC Edition 3):

- A61K-007/04
 A45D-031/00

JAPIO Class:

- 14.4 (ORGANIC CHEMISTRY--- Medicine)
 14.2 (ORGANIC CHEMISTRY--- High Polymer Molecular Compounds)
 30.3 (MISCELLANEOUS GOODS--- Clothing & Personal Belongings)

Abstract:

PURPOSE: To prepare a nail reinforcing agent giving tough coating film to reinforce the soft nail, and useful for the mending and prevention of cracks of flaky peeling of the nail, by mixing and dispersing short fibers of rayon, nylon, cotton, wool, etc. in a lacquer base.

CONSTITUTION: The nail reinforcing agent is obtained by dispersing fibers of rayon, nylon, polyester, cotton, wool, flax, silk, etc. of 0.5-15 denier in thickness and 0.5-3.0mm in length, homogeneously, in a colorless, white, or colored lacquer base. The nail reinforcing agent can be applied and dried in the same manner as conventional nail enamel, and cured to obtain a tough film dispersed with the short fibers. The combined effect of the fiber and the resin gives the coating film with extremely high toughness, and enables the reinforcement of the soft nail and the mending and prevention of the cracks and flaky peeling of the nail. Especially, the agent is effective to the crack of the nail by the bridging effect of the fibers at the crack. The amount of the fibers is 0.1-3% based on the whole composition. (From: Patent Abstracts of Japan, Section: C, Section No. 85, Vol. 05, No. 204, Pg. 17, December 24, 1981)

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(12) UK Patent Application (19) GB (11) 2 014 852 A

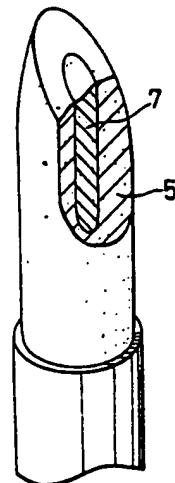
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(54) Lipsticks

(57) A lipstick is disclosed having a core and sheath construction comprising concentrically disposed compositions A (5) and B (7). Composition A is a homogeneous mixture of 53 to 85% by weight of a low-viscosity oily ingredient having a viscosity of less than approximately 80 centipoises at 36°C and from 15 to 47% by weight of a waxy ingredient having the form of a solid at 36°C. Composition B is a homogeneous mixture of from 40 to 90% by weight of a viscous oily ingredient having a viscosity of at least 200 centipoises at 36°C and from 10 to 60% by weight of a waxy ingredient.

The lipstick can be coloured or colourless, i.e. a lip gloss.

FIG.5



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FIG.1

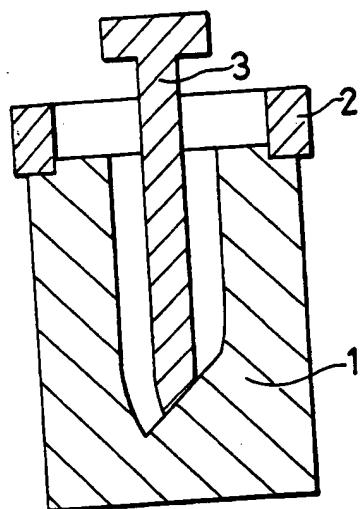


FIG.2

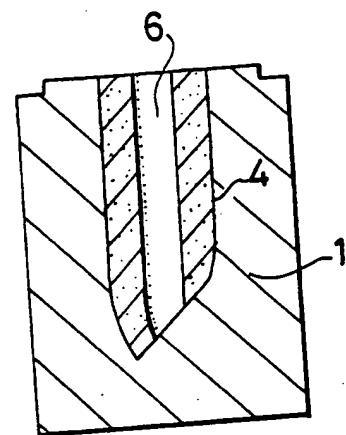


FIG.4

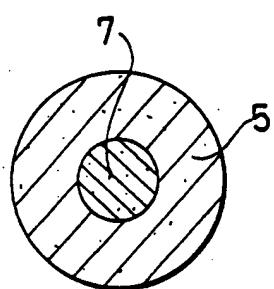


FIG.3

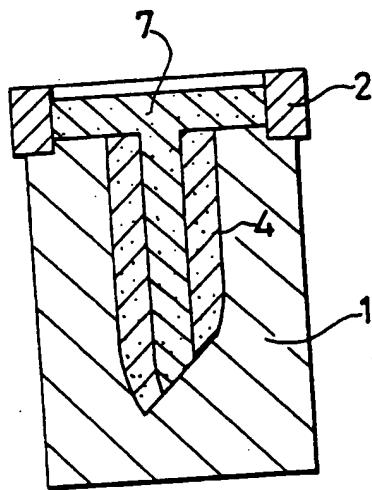
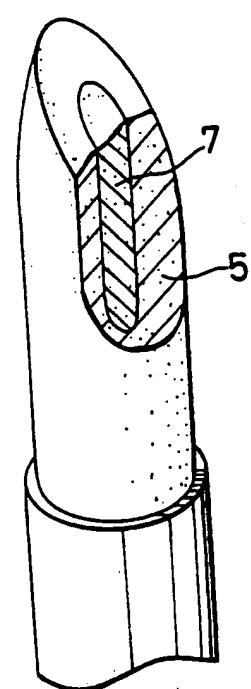


FIG.5



SPECIFICATION

Lipsticks

5 5 The present invention relates to lipsticks.

More particularly, the invention relates to lipsticks having a core-sheath construction (hereinafter referred to as "lipsticks of the core sheath type") which comprises two different compositions arranged in a core and sheath relationship along the longitudinal axis of the lipstick. An excellent lipstick of the core sheath type embodying the invention, when applied to the lips by its smooth end surface which has the 10 core exposed therein, causes no tacky or disagreeable sensation, spreads well with a soft feel and a light touch, adheres evenly to and protects the lips, and provides good gloss, clarity, hue, and colour development.

Conventional lipsticks are compromises so far as concerns their quality characteristics: some characteristics cannot be improved without sacrificing others. It is difficult, therefore, to produce lipsticks which 15 have all of the desirable properties, such as beautiful gloss, high clarity, soft feel, good adhesion, lack of tackiness and slipperiness, good colour development, and moderate strength.

For example, lipsticks containing large amounts of materials, such as low-viscosity oily ingredients, which promote a light touch, soft feel, good spreadability, and high clarity are liable to stain tableware and clothes, are apt to run or spread from the lips and impair the makeup, and are easy to break. Viscous 20 oily ingredients may be employed to overcome the disadvantages just described, but if used in large amounts, they may cause the resulting lipstick to fail to spread well and result in tacky and disagreeable sensations to the lips.

Any attempt to overcome the last-mentioned disadvantages leads to a recurrent of the first-mentioned disadvantages.

25 25 If both of the above-described types of materials are used in large amounts with the object of overcoming all the foregoing disadvantages, their effects simply offset each other. Thus, by these expedients it is impossible to obtain any lipstick exhibiting all of the above-described desirable properties.

Some composite lipsticks have been proposed. They include a lipstick of the side-by-side type in which 30 two different compositions are bonded together along the longitudinal axis thereof and a lipstick of the core-sheath type in which a core constituting of one composition is surrounded by a sheath consisting of another composition or wax. However, the proposed composite lipsticks have many shortcomings and are of little utility for practical purposes.

Specifically, in the side-by-side lipsticks disclosed in Japanese Utility Model Publications No. 17599/'62 and No. 17600/'62, two masses of compositions having different colours and densities are bonded in a 35 vertical plane. These lipsticks can produce a wide variety of colour-coordinated cosmetic effects usually achievable only with two or more conventional lipsticks having different colours and densities. Unfortunately, these bonded lipsticks tend to undergo a separation of the compositions because they must be applied by holding them in a slightly tilted position and by pressing them on the lips.

In a bordering lipstick as described in Japanese Utility Model Laying-open Publication No. 135377/75', a 40 thin core of lip rouge is surrounded by a layer of hard wax. This lipstick permits elaborate make up and has an hygienic advantage in that the core is not touched with the hand. However, the core is easy to break and the sheath (of hard wax) need be sharpened as the core wears away. Moreover, the sheath cannot be used as the core wears away, and the sheath cannot be used as lip rouge.

In the lipstick of the core-sheath type described in U.S. Patent 3,279,999, the difference in hardness (or 45 melting point) between the core and sheath compositions is unduly great and the content of low-viscosity oily ingredients (namely, peanut oil and butyl stearate) in the core or sheath composition is very low. As a result, the softer composition wears away so rapidly in use that the core either becomes depressed in or sticks out of the sheath. This makes it difficult to apply both compositions equally to the lips. Moreover, this lipstick has the disadvantages of tending to slip during application, of causing tacky, resistant, and 50 disagreeable sensations to the lips, and of failing to provide a good gloss and a clear appearance.

In efforts to overcome or minimise the above-described disadvantages of simple lipsticks and composite lipsticks of the prior art, we performed detailed studies and found that an excellent lipstick of the core-sheath type can be obtained by using a composition A containing from 53 to 85% by weight of low-viscosity oily ingredient and another composition B consisting essentially of a viscous oily ingredient 55 and a waxy ingredient. These compositions have both desirable properties and short comings, and are not suited to the formation of simple lipsticks or lipsticks of the side-by-side type. However, when they are formed into a lipstick of the core-sheath type, surprisingly only the desirable properties of both compositions are enhanced and manifested owing to a unique synergistic effect of this invention, whereby satisfactory cosmetic effects are easily and readily produced on the lips.

60 60 A lipstick (such as lip rouge or lip cream preparation) embodying the invention exhibits no slippiness, causes no tacky, resistant, or disagreeable sensation, spreads well with a soft feel and a light touch, adheres evenly to the lips and gives protection thereto, and provides good gloss, clarity, hue, and colour development.

According to the present invention, there is provided a lipstick of the core and sheath type comprising 65 two different compositions A and B arranged in core and sheath relationship along the longitudinal axis

thereof, the composition A consisting essentially of a homogeneous mixture including from 53 to 85% by weight of a low viscosity oily ingredient having a viscosity of less than approximately 80 centipoises at 36°C and from 15 to 47% by weight of a waxy ingredient having the form of a solid at 36°C, and the composition B consisting essentially of a homogeneous mixture including from 40 to 90% by weight of a viscous oily ingredient having a viscosity of at least approximately 200 centipoises at 36°C and from 10 to 60% by weight of said waxy ingredient.

5 The invention will now be described by way of example only with reference to the accompanying drawings, in which:

Figure 1 to 3 are vertical sectional views illustrating a procedure for molding a lipstick of the core and sheath type in accordance with this invention;

10 Figure 4 is a cross-sectional view illustrating the construction of a lipstick or the core and sheath type formed in accordance with this invention; and

Figure 5 is a partially cutaway perspective view of the lipstick of Figure 4.

15 The lipstick according to the invention has a construction of the core and sheath type in which two different compositions A and B are arranged in core and sheath relationship along the longitudinal axis thereof.

The compositions A and B are used in conjunction with each other. This means that the sheath consists of the composition B when the core consists of the composition A and that the core consists of the composition B when the sheath consists of the composition A. The expression "low-viscosity oily ingredient having a viscosity of less than approximately 80 centipoises at 36°C", as used herein, denotes oily substances which have a viscosity of less than approximately 80 centipoises as measured with a rotational viscometer at a specimen temperature of 36 ± 0.5°C. The preferred low-viscosity oily ingredients are exemplified by, but not limited to, mineral oil (22 cps.), squalane (35 cps.) isopropyl palmitate (25 cps.), isopropyl myristate (25 cps.), cetyl lactate (22 cps.), butyl stearate (16 cps.), myristyl lactate (22 cps.), 20 octyldodecyl ricinoleate (51 cps.) octyldodecyl myristate (37 cps.), octyldodecyl oleate (30 cps.), propylene glycol monolaurate (22.5 cps.), cetyl ricinoleate (73 cps.), 2-ethyl-hexyl-succinate (25 cps.), cetyl isoctanoate (25 cps.), stearyl isoctanoate (19 cps.) glyceryl tri-2-ethyl-hexanate (37.5 cps.), hexadecyl alcohol (25 cps.), oleyl alcohol (37.5 cps.), octyldodecanol (37.5 cps.), oleic acid (38 cps.), olive oil (46 cps.), and cocoa butter (54 cps.) and mixtures of two or more of the foregoing. These low-viscosity oil ingredients may be 30 used either alone or in combination, and incorporated (or included) either in one composition (for the core or the sheath) or in both compositions (for the core and the sheath).

The expression "viscous oily ingredient having a viscosity of at least approximately 200 centipoises at 36°C", as used herein, denotes oily substances which have a viscosity of at least approximately 200 centipoises as measured with a rotational viscometer at a specimen temperature of 36 ± 0.5°C. The preferred 35 viscous oily ingredients are exemplified by, but not limited to, lanolin (48,000 cps.), castor oil (300 cps.), lanolin oil (916 cps.), polybutene having an average molecular weight of from 500 to 2,500 (33,000 cps.), petrolatum (102,000 cps.), and lanolin alcohol (12,000 cps.), and mixtures of two or more of the foregoing. These viscous oily ingredients may be used either alone or in combination, and incorporated (or included) either in one composition (for the core or the sheath) or in both compositions (for the core and the 40 sheath).

The expression "waxy ingredient having the form of a solid at 36°C", as used herein, denotes oily substances which have the form of a solid 36 ± 0.5°C and defy the measurement of their viscosity with a rotational viscometer. The preferred waxy ingredients are exemplified by, but not limited to, beeswax, candelilla wax, carnauba wax, microcrystalline wax, ceresin, paraffin wax, spermaceti, cetyl alcohol, stearyl 45 alcohol, hydrogenated cottonseed oil, hydrogenated castor oil, and hydrogenated palm oil. These waxy ingredients may be used either alone or in combination, and incorporated (or included) homogeneously in both compositions (for the core and the sheath).

The composition A comprises a homogeneous mixture including 53 – 85% by weight and preferably 55 – 75% by weight of the low-viscosity oily ingredient; 15 – 47% by weight e.g. 25 – 45%, and preferably 17 – 50 30% by weight of the above-defined waxy ingredient; and 0 – 32% by weight and preferably 8 – 28% by weight of the viscous oily ingredient, based on the total weight of the mixture.

If the content of the low-viscosity oily ingredient is lower than 53% by weight, the resulting composition causes tacky and severely disagreeable sensations and tends to show a reduction in spreadability and clarity. If it is higher than 85% by weight, the resulting composition is readily worn away when used for 55 the core, or is difficult to form and easy to break when used for the sheath. However, the compositions containing from 53 to 85% by weight of a low-viscosity oily ingredient have a light touch and a soft feel and provide good spreadability and clarity. These desirable properties are imparted to all the lipsticks of the core-sheath type including lip rouge preparations and other lip cosmetics, such as lip creams which contain no colourant.

60 As noted above, the composition A contains the above-defined waxy ingredient in an amount of from 15 to 47% by weight and preferably from 17 to 30% by weight based on the total weight of the mixture. If the content of this ingredient is lower than 15% by weight, the resulting composition is difficult to form into a stick and easy to break. If it is higher than 47% by weight, the resulting composition shows a reduction in spreadability and tends to cause disagreeable sensations.

65 The composition A may optionally contain the above-defined viscous oily ingredient in an amount of

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from 0 to 32% by weight and preferably from 8 to 28% by weight. If the content of this ingredient is higher than 32% by weight, the resulting composition undesirably causes a severely tacky sensation and becomes difficult to form into a stick.

The composition A need not necessarily contain the viscous oily ingredient. However, its adhesion to the lips and its effect of preventing impairment of the makeup can be improved by using this ingredient in an amount as described above.

On the other hand, the composition B comprises a homogeneous mixture of 40 - 90% by weight and preferably 50 - 75% by weight of the above viscous oily ingredient; 10 - 60% by weight and preferably 15 - 30% by weight of the waxy ingredient; and 0 - 30% by weight and preferably 5 - 20% by weight of the low-viscosity oily ingredient, based on the total weight of the mixture.

If the content of the viscous oily ingredient is lower than 40% by weight, the resulting composition is apt to "run" and hard to adhere to the lips. If it is higher than 90% by weight, the resulting composition is difficult to form into a stick and liable to cause tacky and disagreeable sensations.

As noted above, the composition B contains 10 - 60% by weight and preferably 15 - 30% by weight of the waxy ingredient by weight based on the total weight of the mixture. If the content of the waxy ingredient is lower than 10% by weight, the resulting composition is difficult to form into a stick and easy to break. If it is higher than 60% by weight, the resulting composition causes hard and disagreeable sensations and shows a reduction in spreadability and adhesion.

The composition B may optionally contain the above-defined low-viscosity oily ingredient in an amount of from 0 - 30% by weight based on the weight of the mixture. If the content of this ingredient is higher than 30% by weight, the resulting composition generally tends to "run" and shows a reduction in adhesion. Moreover, it is readily worn away when used for the core, or is difficult to form and easy to break when used for the sheath.

The composition B need not necessarily contain the low-viscosity oily ingredient. However, a moderately soft feel, clear appearance, and good spreadability can be imparted thereto by using this ingredient in an amount as described above.

Usually, more desirable results can be obtained when the composition B contains the viscous oily ingredient in an amount of from 50 to 75% by weight, the waxy ingredient in an amount of from 15 to 30% by weight, and the low-viscosity oily ingredient in an amount of from 5 to 20% by weight, these amounts being based on the total weight of the homogeneous mixture.

In the lipsticks of the core-sheath type comprising the above-defined compositions A and B in accordance with this invention, most desirable results can be obtained when both compositions contain all three of the specified ingredients. Moreover, for the manifestation of desirable cosmetic effects, it is particularly important that the ingredients for each composition are mixed homogeneously.

35 In each of the compositions A and B, all the oily and waxy ingredients constitute from 77 to 100% by weight and preferably from 83.5 to 99.5% by weight of the respective composition.

The composition A or B, or both, may further contain a pigment in an amount of from 0 to 20% by weight and preferably from 0.5 to 15% by weight based on the weight of the respective composition. If the content of the pigment is higher than 20% by weight, the resulting composition tends to feel rough.

40 In the case of an uncoloured lip cosmetic (lip cream), the composition A or B, or both, usually contains no pigment. In the case of a coloured lip rouge preparation, however, a good colour development and a bright hue can be provided by using a pigment in an amount as described above.

The pigments which can be used in the practice of this invention can be inorganic and organic materials. The preferred inorganic pigments are exemplified by titanium dioxide, zinc oxide, talc, kaolin, iron oxides, bismuth oxychloride, and mica coated with titanium dioxide, as well as mixtures of two or more thereof. The preferred organic pigments, which may be the pigments permitted by law, are exemplified by D & C Red No. 7, D & C Red No. 9, D & C Red No. 19, D & C Red No. 21, D & C Red No. 30, D & C Orange No. 17, FD & C Red No. 3 Aluminium Lake, FD & C Yellow No. 5 Aluminium Lake, D & C Yellow No. 10 Aluminium Lake, FD & C Blue No. 1 Aluminium Lake, and mixtures of two or more thereof.

50 The compositions A or B, or both, may further contain a dye in an amount of from 0 to 5% by weight and preferably from 0 to 3% by weight based on the weight of the respective composition.

The preferred dyes, which may be coal tar dyes permitted by law, are exemplified by oil-soluble dyes such as D & C Red No. 21, and D & C Orange No. 5.

55 Preferably, the above-described compositions A and B have melting points of from 60 to 75°C, and the temperature difference therebetween is from 0 to 5°C. If the melting point is lower than 60°C, the composition is too soft to retain its original stick form, while if it is higher than 75°C, the composition is too hard for application. If the temperature difference therebetween is greater than 5°C, the difference in hardness is so great that the composition having a lower melting point wears away more rapidly. This makes it difficult to apply both compositions equally to the lips, so that the desirable properties of both compositions may fail to be fully exhibited.

The compositions A and B are used in a weight ratio ranging from 1:4 to 4:1 and preferably from 1:2 to 2:1. If the weight ratio is outside this range, the desirable properties and shortcomings of the composition used in the larger amount are manifested to a greater degree, so that the desirable properties of both compositions may fail to be fully exhibited.

65 Whichever compositions are used for the core and the sheath, the resulting lipstick of the core-sheath

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type enables one to attain the advantages of this invention provided the compositional guidelines above are followed. However, the lipsticks of the core and sheath type in which the sheath consists of the composition A containing from 53 to 85% by weight of a low-viscosity oily ingredient are the most preferable, because they cause a more agreeable sensation to the lips and present a clear and glossy appearance.

In lipsticks of the core-sheath type embodying this invention, the cross-sectional shapes of the core and the sheath may be, for example, circular, elliptic, oval, triangular, square, pentagonal, hexagonal, or rhombic. A substantially concentric construction is preferred because of the ease of formation.

The lipsticks of the core and sheath type in accordance with this invention are characterised by the fact that the desirable properties of both compositions are exhibited when they are applied to the lips by contact with both the core and the sheath exposed at the end of the stick. It is preferable, therefore, that the lipstick is formed with a smooth end surface intersecting the longitudinal axis thereof. This smooth end surface may be either perpendicular or inclined to the longitudinal axis.

The lipsticks in accordance with this invention can be made by preparing the compositions A and B separately and then molding them in a manner as will be described later. Specifically, the oily and waxy ingredients for each composition are mixed in predetermined proportions and heated, for example, to a temperature of from 85 to 90°C. In the resulting molten mass are homogeneously mixed predetermined amounts of such additives as pigment, dye, perfume, and preservative. Then, the molten masses of compositions A and B thus obtained are formed into a lipstick.

20 The formation of a core and sheath lipstick can be carried out, for example, by the procedure illustrated in Figures 1 to 3. A mold is assembled which comprises a lower part 1 for molding the body of the lipstick and an upper part 2 for introducing the compositions there into. Into the cavity 4 (for example, of circular cross-section) is inserted a rod 3 (for example, of circular cross-section) for forming the core shape (Figure 1).

25 Then, a molten mass of the composition for the molding of the sheath is poured into the cavity 4 and cooled to solidify the composition. Thereafter, the rod 3 removed, the upper part 2 is demounted, and any superfluous composition is scraped off. Consequently, a core cavity 6 is molded as illustrated in Figure 2.

After the upper part 2 is remounted, a molten mass 7 of the composition for the moulding of the core is poured into the core cavity 6 and cooled to solidify the composition. (Figure 3). Then, the upper part 2 is demounted and the molded product is removed from the lower part 1. Finally, this molded product is mounted in a suitable case.

Lipsticks of the core and sheath type in which the core and the sheath have a variety of shapes as described above can be produced by changing the cross-sectional shapes of the cavity 4 and the rod 3.

The above-described composition A has a combination of desirable properties and shortcomings, while 35 the above-described composition B has another combination of desirable properties and shortcomings. However, when a lipstick of the core-sheath type comprising these compositions A and B is applied to the lips, only the desirable properties of both compositions are enhanced and manifested owing to a unique synergistic effect. That is, when the lipstick is a lip cream preparation containing no colourant, it causes no tacky or disagreeable sensation to the lips, spreads well with a soft feel and a light touch, and adheres 40 evenly and stably to the lips and gives protection thereto. When the lipstick is a lip rouge preparation containing a colourant or colourants in the core composition or in both compositions, it provides excellent gloss, clarity, hue, and colour development in addition to the above-described effects. Thus, this lipstick is characterised by the ability to exhibit all of the properties desired for lipsticks.

It is evident from the results of the examples given below that these remarkable effects can be achieved 45 solely by using the above-defined compositions A and B in a manner as described above and forming them into a lipstick of the core and sheath type.

This invention is further illustrated by the following examples. In these examples, all parts and percentages are by weight.

The appearance and properties of the lipsticks described herein were evaluated by organoleptic tests 50 (Test of cosmetic action) using a panel composed of 50 women. The indicated values are the numbers of women who reported the presence of the corresponding properties. During the test period of 2 months, the lipsticks were daily applied to the lips in such a manner that both the core and the sheath thereof came into contact with the lips.

The viscosities (in cps.) of low-viscosity oily ingredients and viscous oily ingredients were measured 55 with a Vismetron B rotational viscometer (manufactured by Tokyo Keiki Co., Japan). The No. 2 rotor was used for the oily ingredients having a viscosity of less than 1,000 cps. and the No. 4 rotor for those having a viscosity of 1,000 cps. or greater. The indicated values are the averages of 10 measurements.

The melting points of the core and sheath compositions were measured as follows: Each composition was formed into a simple lipstick by conventional procedure and then subjected to measurement by 60 Ubbelohde's method.

Example 1

1. Formulations and Melting Points of Core and Sheath Compositions are shown in the accompanying 65 Table 1.

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2. Formation and Evaluation of Lipstick of Core and Sheath Type.

Each composition was prepared by mixing the above-described oily and waxy ingredients, heating them at 85 - 90°C to make a molten mass, and mixing the pigments, dye, perfume, and antioxidant therein.

5 The resulting molten mass of the sheath composition was poured into the cavity 4 of a mold as illustrated in Figure 1 and cooled to solidify the composition. After removal of the rod 3, the core composition (in a molten state) was poured into the hollow body and cooled to form the core thereof. Thereafter, the cap 2 was demounted and the resulting lipstick of the core-sheath type having an inclined smooth end surface as illustrated in Figure 5 was removed from the mold. As illustrated in the cross-sectional view of 10 Figure 4, this lipstick consisted of the core composition 7 and the sheath composition 5 in the weight ratio of 1:2 and had a concentric two-layer construction.

Then, an organoleptic test was performed on the above-described lipstick of the invention, a comparative lipstick 1 (which was a simple lipstick consisting solely of the core composition), and a comparative lipstick 2 (which was a simple lipstick consisting solely of the sheath composition). The results are shown in 15

15 Table 2.

Table 2

20 Test Item	Lipstick of the Invention	Comparative Lipstick 1	Comparative Lipstick 2	20
Clear Appearance	44	2	45	
Agreeable Touch	43	15	48	25
25 Good Adhesion	37	41	10	
Beautiful Gloss	34	45	20	
Good Durability	39	42	15	
Lack of Tackiness	42	3	49	
Good Color Development	48	49	1	30

30 As can be seen from this data, the lipstick of the invention had all of the properties desired for lipstick, such as clear appearance, agreeable touch, good adhesion, beautiful gloss, good durability, and good colour development. Thus, the lipstick of the invention combined and enhanced the desirable properties of the comparative lipsticks 1 and 2, thereby compensating for the shortcomings thereof. After the test 35 period of 2 months, the core and the sheath were equally worn away with the inclined end surface remaining smooth, and kept in a strongly and stably bonded state.

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Example 2

40 The procedure of Example 1 was repeated except that the core composition was used for the sheath and the sheath composition for the core. A similar organoleptic test was performed on the resulting lipstick of the core-sheath type. As a result, "Agreeable Touch" was reported by 40 women, "Good Adhesion" by 38, "Beautiful Gloss" by 34, "Good Durability" by 40, "Lack of Tackiness" by 38, and "Good Colour Development" by 45.

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45 Comparative Example 1

A mold having a semicylindrical cavity was covered with a flat plate. Then, a molten mass of the core composition described in Example 1 was poured into this cavity and cooled to solidify the composition. 50 The flat plate was replaced by another mold having a similar semicylindrical cavity. Then, a molten mass of the sheath composition described in Example 1 was poured into this cavity and cooled to solidify the composition. Upon removal from the molds, a molded product was obtained which consisted of two different compositions in the weight ratio 1:1, these compositions forming two semicylindrical masses bonded together along the longitudinal axis. This is a composite lipstick of the side-by-side type as disclosed in Japanese Patent Publication No. 17099/61, Figure 2. Then, one end of the lipstick was properly 55 closed in Japanese Patent Publication No. 17099/61, Figure 2. Then, one end of the lipstick was properly shaped to form an inclined end surface for applying to the lips.

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A similar organoleptic test was performed on this lipstick of the side-by-side type. It was applied in such a manner that the interfacial region between both compositions came into contact with the lips. As a result, 36 women experienced a separation of both compositions after 10 - 15 days and 14 after 3 - 4 weeks. As for its quality, "Agreeable Touch" was reported by 28 women, "Good Adhesion" by 35, "Beautiful Gloss" by 29, "Good Durability" by 31, "Good Colour Development" by 34, "Lack of Tackiness" by 15, and "Clear Appearance" by 10.

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Thus, though the compositions falling within the scope of the invention were used, the composite lipstick of the side-by-side type tended to undergo a separation of both compositions after a short period 60 of time owing to the pressure exerted during application. Moreover with respect to such characteristics as

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touch, adhesion, colour development, durability, and gloss, this lipstick was inferior to the lipstick of the invention described in Example 1, indicating that the desirable properties of both compositions failed to be fully exhibited.

5 Comparative Example 2.

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According to the Example described in U.S. Patent 3,279,999, column 3, a softer composition (having a melting point of 75°C) and a harder composition (having a melting point of 85°C) were prepared. In these compositions, D & C Red No. 7 was used as pigment and methylparaben as preservative.

- 10 10 The procedure of Example 1 was repeated except that the softer composition was used for the core and the harder composition for the sheath. A similar organoleptic test (Test of cosmetic action) was performed on the resulting lipstick of the core-sheath type. As a result, "Clear Appearance" was reported by 2 women, "Agreeable Touch" by 18, "Good Adhesion" by 20, "Beautiful Gloss" by 11, "Durability" by 39, "Good Colour Development" by 41, and "Lack of Tackiness" by 5.
- 15 15 The procedure of Example 1 was repeated once more, except that the softer composition was used for the sheath and the harder composition for the core. A similar organoleptic test was performed on the resulting lipstick of the core-sheath type. As a result, "Clear Appearance" was reported by 16 women, "Agreeable Touch" by 25, "Good Adhesion" by 26, "Beautiful Gloss" by 21, "Good Colour Development" by 36, and "Lack of Tackiness" by 17.
- 20 20 Thus, these lipsticks were significantly inferior to the lipstick of the invention described in Example 1.

Comparative Example 3

The procedure of Example 1 was repeated except that 20.0 parts of octyldodecanol, 28.0 parts of cetyl 25 isooctanoate, and 28.0 parts of castor oil were used in the sheath composition. A similar organoleptic test was performed on the resulting core and sheath lipstick. As a result, "Clear Appearance" was reported by 25 women, "Agreeable Touch" by 23, "Good Adhesion" by 31, "Beautiful Gloss" by 27, "Good Durability" by 47.

As can be seen from this data, the desirable properties of both compositions failed to be fully exhibited 30 because the content of the low-viscosity oily ingredients in the composition A was lower than 55% by weight based on the combined weight of the oily and waxy ingredients.

Example 3

35 1. Formulations and Melting Points of Core and Sheath Compositions are shown in the accompanying Table 3.

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2. Formation and Evaluation of Lipstick of Core and Sheath Type.

The procedure of Example 1 was repeated except that the above-described core and sheath compositions were used in the weight ratio of 1:1.

40 40 Then, a similar organoleptic test (Test of Cosmetic Action) was performed on the resulting lipstick of the invention, a comparative lipstick 3 (which was a simple lipstick consisting solely of the core composition), and a comparative lipstick 4 (which was a simple lipstick consisting solely of the sheath composition). The results are shown in Table 4.

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Table 4

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Test Item	Lipstick of the Invention	Comparative Lipstick 3	Comparative Lipstick 4	
50 Clear Appearance	48	2	46	
Agreeable Touch	42	18	45	
Good Adhesion	36	39	9	
Beautiful Gloss	33	43	21	
55 Good Durability	39	41	14	55
Lack of Tackiness	43	2	48	
Good Color Development	46	47	2	

As can be seen from this data, the lipstick of the invention combined the desirable properties of the 60 comparative lipsticks 3 and 4, thereby compensating for the shortcomings thereof. Moreover, the core and the sheath were equally worn away and kept in a strongly bonded state.

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Example 4

65 1. Formulations and Melting Points of Core and Sheath Compositions are shown in the accompanying

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Table 5.**2. Formation and Evaluation of Lipstick of Core and Sheath Type.**

The procedure of Example 1 was repeated except that the above-described core and sheath compositions were used. With respect to such characteristics as touch, adhesion, gloss, durability, colour development, and lack of tackiness, the resulting lipstick of the core and sheath type was approximately as good as the lipstick of the invention described in Example 2. Specifically, the shortcomings of the sheath composition, such as tacky, resistant, and disagreeable sensations, and those of the core composition, such as poor adhesion, low durability, and slipperiness, were found to be compensated for.

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10 Example 5

1. Formulations and Melting Points of Core and Sheath Compositions are shown in the accompanying Table 6.

2. Formation and Evaluation of Lipstick of Core-Sheath Type.

15 The procedure of Example 1 was repeated except that the above-described core and sheath compositions were used in the weight ratio of 2:1. With respect to such characteristics as adhesion, durability, gloss, touch, colour development, and lack of tackiness, the resulting lipstick of the core-sheath type was approximately as good as the lipstick of the invention described in Example 1.

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20 Example 6

1. Formulations and Melting Points of Core and Sheath Compositions are shown in the accompanying Table 7.

2. Formation and Evaluation of Lipstick of Core and Sheath Type.

25 The procedure of Example 1 was repeated except that the above-described core and sheath compositions were used in the weight ratio of 1:2. With respect to such characteristics as adhesion, durability, gloss, touch, colour development, and lack of tackiness, the resulting lipstick of the core-sheath type was approximately as good as the lipstick of the invention described in Example 1.

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30 Example 7

1. Formulations and Melting Points of Core and Sheath Compositions are shown in the accompanying Table 8.

2. Formation and Evaluation of Lipstick of Core and Sheath Type.

35 The procedure of Example 1 was repeated except that the above-described core and sheath compositions were used in the weight ratio of 1:1. The resulting core and sheath lipstick, in which the core consisted of uncoloured lip rouge and the sheath consisted of lip cream, had a clear appearance and a beautiful gloss, caused no tacky or disagreeable sensation to the lips, spread well with a soft feel and a light touch, and adhered evenly and stably to the lips and gave protection thereto. Specifically, the shortcomings of the core composition, such as tacky, resistant, and disagreeable sensations, and those of the sheath composition, such as poor adhesion, low durability, and slipperiness, were found to be compensated for.

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Example 8

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45 1. Formulations and Melting Points of Core and Sheath Compositions are shown in the accompanying Table 9.

2. Formation and Evaluation of Lipstick of Core and Sheath Type.

The procedure of Example 1 was repeated except that the above-described core and sheath compositions were used. The resulting lipstick of the core and sheath type, in which the core consisted of coloured lip rouge and the sheath consisted of uncoloured lip cream, had a clear appearance, caused no tacky or disagreeable sensation to the lips, spread well with a soft feel and a light touch, and adhered stably to the lips and provided a good and beautiful gloss, clarity, and colour development thereto. Specifically, the shortcomings of the core composition, such as tacky, resistant, and disagreeable sensations, and those of the sheath composition, such as poor adhesion, low durability, and slipperiness, were found to be compensated for.

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Example 9

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1. Formulations and Melting Points of Core and Sheath Compositions are shown in the accompanying Table 10.

2. Formation and Evaluation of Lipstick of Core and Sheath Type.

The procedure of Example 1 was repeated except that the above-described core and sheath compositions were used in the weight ratio of 1:1. The resulting lipstick of the core and sheath type, in which the core and the sheath consisted of two different types of uncoloured lip cream, caused no tacky or disagreeable sensation to the lips, spread well with a soft feel and a light touch, and adhered evenly and stably to

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the lips and gave protection thereto. Specifically, the shortcomings of the sheath composition, such as slipperiness, poor adhesion, and low durability, and those of the core composition, such as tacky, resistant, and disagreeable sensation, were found to be compensated for.

5 Example 10

1. Formulations and Melting Points of Core and Sheath Compositions are shown in the accompanying Table 11.

2. Formation and Evaluation of Lipstick of Core and Sheath Type.

The procedure of Example 1 was repeated except that the above-described core and sheath compositions were used. The resulting core and sheath lipstick caused no tacky sensation to the lips, spread well, and provided good colour development, adhesion, and durability. Specifically the shortcomings of the core composition, such as tacky, resistant, and disagreeable sensations and heavy touch, and those of the sheath compositions, such as slipperiness and poor adhesion, were found to be compensated for.

As will be noted from the foregoing Examples, the waxy ingredients of compositions A and B need not 15 be identical.

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Table 1

Ingredient	Sheath Composition (parts)	Core Composition (parts)
Candelilla Wax	15.0	3.0
Carnauba Wax	2.0	2.0
Ozokerite	5.0	10.4
Lanolin (48,000 cps.)	-	
Castor Oil (300 cps.)	16.8	15.0 49.7
Octyldodecanol (37.5 cps.)	25.0	10.0
Cetyl Isooctanoate (25 cps.)	35.0	
D & C Red No. 7 (pigment)	0.2	2.0
D & C Red No. 9 (pigment)	0.3	3.0
FD & C Red No. 3 Aluminum Lake (pigment)	-	0.5
Iron Oxides (pigment)	-	0.5
Titanium Dioxide (pigment)	-	0.1
D & C Red No. 21 (dye)	0.1	0.2
Antioxidant	0.1	0.1
Perfume	0.5	0.5
 Melting Point	64°C.	66°C
Percentage by Weight	66.6%	33.3%

Table 3

Ingredient	Sheath Composition (parts)	Core Composition (parts)
Candelilla Wax	12.5	5.0
Ozokerite	7.5	12.5
Carnauba Wax	2.0	3.0
Microcrystalline Wax	-	2.0
Beeswax	-	5.0
Lanolin (48,000 cps.)	-	57.7
Castor Oil (300 cps.)	-	-
Isopropyl Myristate (25 cps.)	15.0	-
Octyldodecanol (37.5 cps.)	15.0	-
Cetyl Isooctanoate (25 cps.)	24.24	-
Olive Oil (46 cps.)	18.2	-
Butyl Stearate (16 cps.)	5.0	10.0
Oleyl Alcohol (37.5 cps.)	0.01	1.0
D & C Red No. 7 (pigment)	0.2	2.0
D & C Red No. 9 (pigment)	0.04	0.5
D & C Orange No. 17 (pigment)	0.01	0.5
Iron Oxides (pigment)	0.1	0.1
Antioxidant	0.7	0.7
Perfume		
Melting Point	67°C.	70°C

Table 5

Ingredient	Core Composition (parts)	Sheath Composition (parts)
Candelilla Wax	15.0	8.0
Carnauba Wax	5.0	3.0
Ozokerite	-	5.0
Beeswax	-	4.0
Castor Oil	19.0	16.0
Lanolin	-	10.0
Lanolin Oil (916 cps.)	-	46.1
Octyldodecanol	15.0	-
Mineral Oil (22 cps.)	5.0	-
Isopropyl Myristate	15.0	-
Cetyl Isooctanoate	25.0	-
Oleyl Alcohol (37.5 cps.)	-	10.0
D & C Red No. 7 (pigment)	0.2	3.0
D & C Red No. 8 (pigment)	0.2	-
D & C Red No. 30 (pigment)	-	0.5
D & C Red No. 21 (dye)	0.2	-
Antioxidant	0.1	0.1
Perfume	0.3	0.3
Melting Point	66°C.	70°C.

Table 6

Ingredient	Sheath Composition (parts)	Core Composition (parts)
Candelilla Wax	10.0	5.0
Carnauba Wax	3.0	2.0
Ozokerite	5.0	5.0
Beeswax	6.0	8.0
Castor Oil	9.5	43.25
Lanolin	-	12.0
Lanolin Oil	-	3.0
Mineral Oil (22 cps.)	-	5.0
Octyldodecanol	12.0	5.0
Isopropyl Myristate	35.0	5.0
Butyl Stearate (16 cps.)	4.0	-
Myristyl Lactate (22 cps.)	5.0	-
Cetyl Ricinoleate (73 cps.)	5.0	-
D & C Orange No. 17 (pigment)	3.0	2.0
Iron Oxides (pigment)	1.0	2.0
Titanium Dioxide (pigment)	1.0	2.0
D & C Orange No. 5 (dye)	0.05	0.2
Antioxidant	0.45	0.1
Perfume	0.45	0.45
Melting Point	68°C.	70°C.

Table 7

Ingredient	Sheath Composition (parts)	Core Composition (parts)
Candelilla Wax	5.0	-
Carnauba Wax	3.0	5.0
Paraffin Wax	12.0	10.0
Microcrystalline Wax	5.0	3.0
Beeswax	-	3.0
Lanolin	2.5	-
Castor Oil	4.95	42.8
Polybutene (33,000 cps.)	-	7.5
Oleyl Alcohol (37.5 cps.)	30.0	5.0
Isopropyl Myristate	10.0	-
Diethyl Succinate (25 cps.)	20.0	-
Squalane (35 cps.)	-	5.0
D & C Red No. 7 (pigment)	2.0	2.0
D & C Red No. 9 (pigment)	3.0	3.0
Iron Oxides (pigment)	1.5	1.5
Titanium Dioxide (pigment)	1.5	1.5
Antioxidant	0.05	0.2
Perfume	0.5	0.5
Melting Point	68°C	69°C

Table 8

Ingredient	Sheath Composition (parts)	Core composition (parts)
Candelilla Wax	17.0	7.0
Carnauba Wax	6.0	3.0
Ozokerite	-	5.0
Beeswax	-	5.0
Lanolin	16.9	10.0
Castor Oil	-	59.7
Isopropyl Myristate (25 cps.)	20.0	-
Oleyl Alcohol	30.0	-
Octyldodecyl Myristate (37 cps.)	10.0	-
Glyceryl Tri-2-ethyl-hexanate (37.5 cps.)	0.1	0.3
Antioxidant	64°C.	68°C.
Melting Point		

Table 9

Ingredient	Sheath Composition (parts)	Core Composition (parts)
Candelilla Wax	15.0	5.0
Carnauba Wax	5.0	5.0
Ozokerite	-	10.0
Beeswax	-	5.0
Lanolin	4.6	15.0
Castor Oil	-	32.3
Oleyl Alcohol	-	10.0
Isopropyl Myristate	10.0	-
Octyldodecanol	50.0	-
Octyldodecyl Myristate	10.0	-
Glyceryl Trioctanoate	-	3.0
D & C Red No. 7 (pigment)	-	2.0
D & C Red No. 9 (pigment)	-	1.0
Iron Oxides (pigment)	-	1.0
Titanium Dioxide (pigment)	-	0.2
D & C Red No. 21 (dye)	0.5	0.2
Antioxidant	0.1	0.3
Perfume	69°C.	72°C.
Melting Point		

Table 10

Ingredient	Sheath Composition (parts)	Core Composition (parts)
Carnauba Wax	7.0	3.0
Ceresin	5.0	12.0
Beeswax	2.5	5.0
Candelilla Wax	10.0	
Lanolin	-	
Castor Oil	-	15.0
Oleyl Alcohol	31.5	3.0
Squalane	-	5.0
Mineral Oil	15.0	-
Cetyl Isooctanoate (25 cps.)	25.0	-
Butyl Stearate	5.0	-
Melting Point	66°C.	70°C

Table 11

Ingredient	Sheath Composition (parts)	Core Composition (parts)
Candelilla Wax	7.0	12.0
Carnauba Wax	3.0	3.0
Ceresin	13.0	-
Beeswax	-	6.0
Castor Oil	-	55.3
Oleyl Alcohol	10.0	15.0
Glyceryl Trioctanoate	51.9	-
D & C Red No. 7 (pigment)	4.0	-
D & C Red No. 9 (pigment)	2.0	5.0
D & C Orange NO. 1 1/2 (pigment)	1.0	1.0
Iron Oxides (pigment)	-	2.0
Titanium Dioxide (pigment)	-	1.0
D & C Red No. 21 (dye)	0.5	-
Antioxidant	0.1	0.2
Perfume	0.5	0.5
Melting Point	67°C.	68°C.

CLAIMS

1. A lipstick of the core-sheath type comprising two different compositions A and B arranged in core and sheath relationship along the longitudinal axis thereof, the composition A consisting essentially of a homogeneous mixture including from 53 to 85% by weight of a low-viscosity oily ingredient having a viscosity of less than approximately 80 centipoises at 36°C and from 15 to 47% by weight of a waxy ingredient having the form of a solid at 36°C, and the composition B consisting essentially of a homogeneous mixture including from 40 to 90% by weight of a viscous oily ingredient having a viscosity of at least approximately 200 centipoises at 36°C and from 10 to 60% by weight of a waxy ingredient.
- 5 2. The lipstick according to claim 1, wherein composition A comprises a homogeneous mixture of 55 - 75% by weight of said low-viscosity oily ingredient and 25 - 45% by weight of said waxy ingredient. 5
3. The lipstick according to claim 1, wherein composition A further contains a viscous oily ingredient in an amount of not more than 32% by weight based on the weight of said composition A.
- 10 4. The lipstick according to claim 3, wherein composition A is a homogeneous mixture including 55 - 75% by weight of said low-viscosity oily ingredient, 8 - 28% by weight of said viscous oily ingredient and 17 - 30% by weight of said waxy ingredient. 10
- 15 5. The lipstick according to any of claims 1 to 4, wherein composition B further contains a low-viscosity oily ingredient in an amount of not more than 30% by weight based on the weight of composition B. 15
- 20 6. The lipstick according to claim 5, wherein composition B is a homogeneous mixture including 50 - 75% by weight of said viscous oily ingredient, 15 - 30% by weight of said waxy ingredient and 5 - 20% by weight of said low-viscosity oily ingredient, based on the weight of said mixture. 20
- 25 7. The lipstick according to any of claims 1 to 6, wherein the stated components of compositions A and B comprise 77 - 100% by weight of their respective homogeneous mixtures. 25
- 25 8. The lipstick according to any of claims 1 to 7, wherein said low-viscosity oily ingredient is selected from mineral oil, squalane, isopropyl palmitate, isopropyl myristate, cetyl lactate, butyl stearate, myristyl lactate, octyldodecyl ricinoleate, octyldodecyl myristate, propylene glycol monolaurate, octyldodecyl oleate, cetyl ricinoleate, dioctyl succinate, cetyl isoctanoate, stearyl isoctanoate, glyceryl trioctanoate, hexadecyl alcohol, oleyl alcohol, octyldodecanol, oleic acid, olive oil, cocoa butter and mixtures thereof. 30
- 30 9. The lipstick according to any of claims 1 to 8, wherein said viscous oily ingredient is selected from lanolin, castor oil, lanolin oil, polybutene having an average molecular weight of from 500 to 2,500, petro-
latum, lanolin alcohol and mixtures thereof. 30
- 35 10. The lipstick according to any of claims 1 to 9, wherein said waxy ingredient is selected from bees-
wax, candelilla wax, carnauba wax, microcrystalline wax, ceresin, paraffin wax, spermaceti, cetyl alcohol,
stearyl alcohol, hydrogenated cottonseed oil, hydrogenated castor oil, hydrogenated palm oil, and mix-
tures thereof. 35
- 40 11. The lipstick according to any preceding claim, wherein at least one of compositions A and B fur-
ther contains a pigment in an amount of not more than 20% by weight based on the weight of the composi-
tion. 40
- 40 12. The lipstick according to claim 11, wherein the pigment content is from 0.5 to 15% by weight based
on the weight of the composition. 40
- 45 13. The lipstick according to claim 11 or claim 12, wherein said pigment is at least one inorganic
pigment selected from titanium dioxide, zinc oxide, talc, kaolin, iron oxides, bismuth, oxychloride, mica
coated with titanium dioxide and mixtures thereof. 45
- 45 14. The lipstick according to claim 11 or claim 12, wherein said pigment is at least one organic pig-
ment selected from D & C Red No. 7, D & C Red No. 9, D & C Red No. 19, D & C Red No. 21, D & C
30, D & C Orange No. 17, FD & C Red No. 3 Aluminium Lake, FD & C Yellow No. 5 Aluminium Lake, D & C
Yellow No. 10 Aluminium Lake, FD & C Blue No. 1 Aluminium Lake, and mixtures thereof. 50
- 50 15. The lipstick according to any preceding claim, wherein compositions A and B have melting points
of from 60 to 75°C and the temperature difference therebetween is from 0 to 5°C. 50
- 50 16. The lipstick according to any preceding claim, wherein the compositions of the core and the
sheath are present in a weight ratio ranging from 1:4 to 4:1. 50
- 55 17. The lipstick according to any preceding claim, wherein the cross-sectional shapes of the core and
the sheath are circular, elliptic, oval, triangular, square, pentagonal, hexagonal, or rhombic. 55
- 55 18. The lipstick according to any preceding claim, which is molded with a smooth end surface that is
either perpendicular or inclined to the longitudinal axis of the lipstick. 55
- 55 19. The lipstick according to any preceding claim, wherein at least one of compositions A and B fur-
ther contains a dye in an amount of not more than 5% by weight based on the weight of the composition. 55
- 60 20. The lipstick according to claim 19, wherein the weight % of the dye is not more than 3%. 60
- 60 21. A lipstick of core and sheath type, substantially as herein described with reference to the accom-
panying drawings. 60
22. Lipsticks of core and sheath type, formulated and formed in accordance with Examples Nos. 1 to 9
hereinbefore.